

# Product data sheet

Specifications



## Photoelectric sensors XU, diffuse, Sn 9 mm, NO or NC, M12 connector

XURK1KSMM12

### Main

|                               |                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------|
| Range of product              | Telemecanique Photoelectric sensors XU                                                                           |
| Series name                   | Application packaging                                                                                            |
| Electronic sensor type        | Photo-electric sensor                                                                                            |
| Sensor name                   | XUR                                                                                                              |
| Sensor design                 | Compact                                                                                                          |
| Detection system              | Diffuse                                                                                                          |
| Emission                      | Red or green                                                                                                     |
| [Sn] nominal sensing distance | 18 mm spot 2 x 7 mm need lens XURZ01<br>7 mm spot 1 x 4 mm need lens XURZ02<br>9 mm spot 1.5 x 5 mm without lens |
| Material                      | Metal                                                                                                            |
| Switching frequency           | <= 10 kHz                                                                                                        |
| Type of output signal         | Discrete<br>Analogue                                                                                             |
| Supply circuit type           | DC                                                                                                               |
| Wiring technique              | 3-wire                                                                                                           |
| Discrete output type          | PNP or NPN                                                                                                       |
| Discrete output function      | 1 NO or 1 NC programmable                                                                                        |
| Analogue output range         | 0...5.5 V, DC                                                                                                    |
| Electrical connection         | 1 male connector M12 adjustable 3 positions, 4 pins                                                              |
| Product specific application  | Colour mark                                                                                                      |
| Sale per indivisible quantity | 1                                                                                                                |

### Complementary

|                                 |                                           |
|---------------------------------|-------------------------------------------|
| Enclosure material              | Zinc alloy                                |
| Lens material                   | Glass                                     |
| Minimum width of mark detected  | 0.5 mm                                    |
| Maximum inclination of reader   | 20 °                                      |
| Maximum passing speed of object | 10 m/s, minimum detected mark width: 1 mm |
| Output type                     | Solid state                               |

|                            |                                                                  |
|----------------------------|------------------------------------------------------------------|
| Output function governance | Light or dark programmable                                       |
| Add on output              | With analogue output                                             |
| Status LED                 | Output state: 1 LED (red)                                        |
| [Us] rated supply voltage  | 12...24 V DC with reverse polarity protection                    |
| Supply voltage limits      | DC                                                               |
| Switching capacity in mA   | <= 200 mA (overload and short-circuit protection)                |
| Maximum voltage drop       | <1 V (closed state), NPN<br><2 V (closed state), PNP             |
| Current consumption        | <= 80 mA no-load                                                 |
| Time delay range           | 20 ms off-delay activation/deactivation by internal switch delay |
| Maximum delay first up     | 100 ms                                                           |
| Maximum delay response     | 0.05 ms                                                          |
| Maximum delay recovery     | 0.05 ms                                                          |
| Setting-up                 | Sensitivity adjustment with teach mode                           |
| Depth                      | 58 mm                                                            |
| Height                     | 82 mm                                                            |
| Width                      | 31 mm                                                            |
| Product weight             | 0.55 kg                                                          |

## Environment

|                                       |                                                                           |
|---------------------------------------|---------------------------------------------------------------------------|
| Product certifications                | CE                                                                        |
| Ambient air temperature for operation | -10...55 °C                                                               |
| Ambient air temperature for storage   | -20...70 °C                                                               |
| Vibration resistance                  | 7 gn, amplitude = +/- 0.6 mm (f = 10...55 Hz) conforming to IEC 60068-2-6 |
| Shock resistance                      | 30 gn (duration = 11 ms) conforming to IEC 60068-2-27                     |
| IP degree of protection               | IP67 conforming to IEC 60529                                              |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 5.0 cm  |
| Package 1 Width              | 8.5 cm  |
| Package 1 Length             | 13.5 cm |
| Package 1 Weight             | 328.0 g |
| Unit Type of Package 2       | S02     |
| Number of Units in Package 2 | 21      |
| Package 2 Height             | 15.0 cm |
| Package 2 Width              | 30.0 cm |
| Package 2 Length             | 40.0 cm |
| Package 2 Weight             | 7.37 kg |

## Offer Sustainability

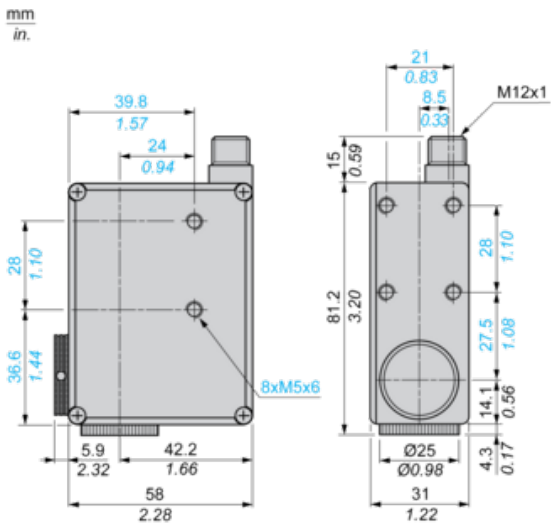
|                  |                                   |
|------------------|-----------------------------------|
| REACH Regulation | <a href="#">REACH Declaration</a> |
|------------------|-----------------------------------|

|                            |                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REACH free of SVHC         | Yes                                                                                                                                                                                                                                                                                                                                                                               |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                                                                                                                                                                                                                                                                                 |
| Toxic heavy metal free     | Yes                                                                                                                                                                                                                                                                                                                                                                               |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                                                                                                               |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                                                                                                               |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Diisononyl phthalate (DINP), which is known to the State of California to cause cancer, and Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

### Contractual warranty

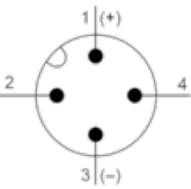
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Dimensions



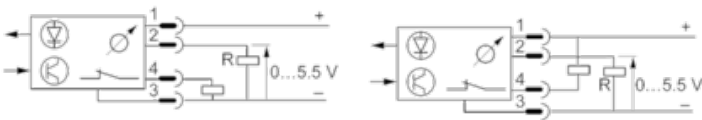
Wiring Schemes

Connector Scheme



- 1/Brown : 10...30 VDC
- 2/White : Adjustment input
- 3/Blue : 0 V
- 4/Black : Output

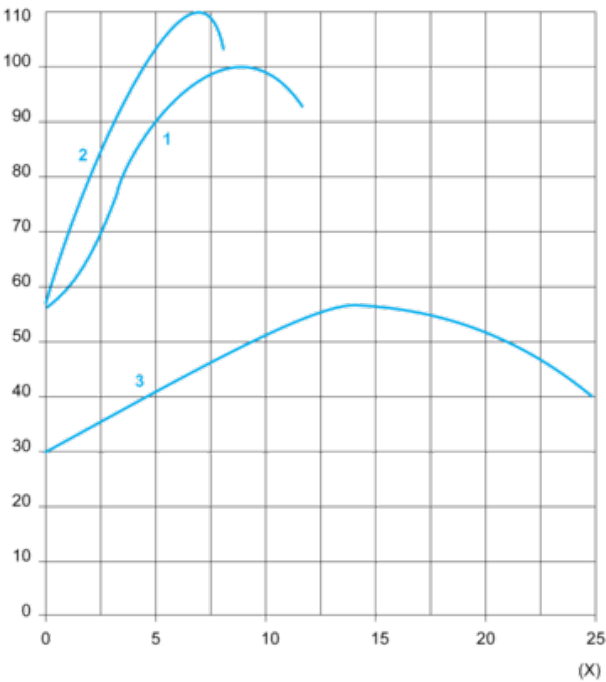
PNP or NPN Programmable



R = 2.2 kΩ

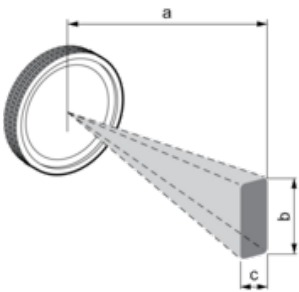
Curves

Detection Curve



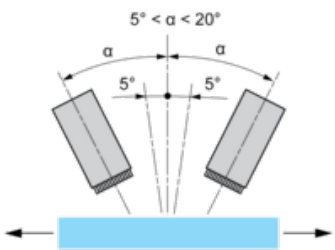
- (x) Distance (mm)
- 1 : XURK.....
- 2 : With XURZ01
- 3 : With XURZ02

Detection Zone and Spot Size (mm)



|             | a  | b | c   |
|-------------|----|---|-----|
|             | 9  | 9 | 1.5 |
| With XURZ01 | 18 | 7 | 2   |
| With XURZ02 | 7  | 4 | 1   |

Vertical Inclination



An angle of 5 to 10° from vertical is recommended for reflective or transparent surfaces Maximum vertical inclination: 20°

Recommended replacement(s)